Step By Step DEPLOYMENT Instructions

Outline   Details

- **1. Establish Desktop and Application Environment**
    - Beyond AAP, Attend Shared Server Environment Orientation Meeting
    - Access Community Information Resources
        - Obtain MyNewJersey Portal Login
        - Establish WebDevelopers Portal Role
    - Install Software Tools
        - Development Tool
        - Desktop Web/Application Server
        - Middleware tools, as applicable
        - Utilitarian tools, as desired
        - CVS client
    - Shared and Reusable Assets (see WebDevelopers documents on the following PLUS many more topics)
        - PORTAL: if application is expected to initiate from myNewJersey PORTAL, begin discussions with PORTAL team
        - LOGGING: for testing/message log, use HostInfo component, Log4J
        - EMAIL: if application is to use EMAIL, use the NJEmail component
        - ePAYMENT: if application is to accept online payments, consider the ePayment component
        - consider any/all other reusable assets
    - Quality Assurance
        - Prepare HTML Application Startup Page, "ApplicationUnavailable.html", and URL relative addressing
        - Establish Code VERSION Control areas and client software
        - Recognize that Code Review, and Load/Stress Testing are yet to come
    - DataSource
        - Establish database
        - Establish connectivity

- **2. Create UNIT TEST application (naturally, this can be iterative)**

    - Application Design, Development, Testing
        - complete Project life cycle steps in developing the application as per ... MUG, etc.
        - Locally Build Deployable Application file(s)
        - Develop and Implement Test Harness and/or Test Driven Development (TDD)
        - Locally Test Application

3. Prep Work for INTEGRATION TEST Environment (usually one time steps, prior to initial deployment)

- Server Admin related issues
    - Establish User Access to appropriate shared server(s)
    - Tools, confirm installation on shared servers

4. Application DEPLOYMENT and Execution on INTEGRATION TEST

- DEPLOY code and related files
    - PUBLIC Tier: Presentation/WebServer piece
        - If Sun App, directly deploy html, etc.

- - - Middleware tools, as applicable
    - DataSource
      - Establish database
      - Establish connectivity
- Quality Assurance / Code Prep
  - Work with Competency Center to confirm code structure, etc.
  - Ensure implementation of DataAcess Best Practices and recommendations

- **5. and 7. Prep Work for SYSTEM TEST _AND_ PRODUCTION Environment**
(usually one time steps, prior to initial deployment)
Note: Must be complete for EACH environemt (SysTest AND Prod)

- Server Admin related issues
  - Establish User Access to appropriate shared server(s)
  - Tools, confirm installation on shared servers
    - Middleware tools, as applicable
  - DataSource
    - Establish database
    - Establish connectivity
- Quality Assurance / Code Prep
  - Work with AIS to prepare Load/Stress Testing scripts and conditions
  - Measure Performance to ensure ap does not degrade server performance and/or over-consume resources

- - - If .NET App, transfer deployable application file(s) for automated deployment
    - SECURE Tier: BusinessLogic/Application piece
      - transfer deployable application file(s) for automated deployment
- Execute Test Harness and/or Test Driven Development (TDD)
- Monitor Application
- Sign-Off

- **6. and 8.Application DEPLOYMENT and Execution on SYSTEM TEST _AND_ PRODUCTION**
Note: Must be complete for EACH environemt (SysTest AND Prod)

- DEPLOY code and related files
  - PUBLIC Tier: Presentation/WebServer piece
    - If Sun App, directly deploy html, etc.
    - If .NET App, make email request to have application promoted via Ndeploy-request@oit.state.nj.us
  - SECURE Tier: BusinessLogic/Application piece
    - make email request to have application promoted via deploy-request@oit.state.nj.us, Ndeploy-request@oit.state.nj.us, or Wdeploy-request@oit.state.nj.us
- Execute Test Harness and/or Test Driven Development (TDD)
- Monitor Application
- Sign-Off

1. Establish Desktop and Application Environment		
TASK	Responsible Party	Detail

* Confirm Naming Conventions and other startup requirements		
Beyond AAP, Attend Shared Server Environment Orientation Meeting	Development Team in conjunction with AIS Team	beneficial communication between Developer and AIS Team about the Shared Server Environment, the manner in which Applications are deployed at the various server levels, requirements for code testing, etc., etc., etc.
* Access Community Information Resources		
Obtain MyNewJersey Portal Login	each Developer	see "Login" at: http://www.state.nj.us/
Establish WebDevelopers Portal Role	WebDevelopers Role Manager based on info provided by requestor	Have another "WebDeveloper" share WebDevelopers Channel hyperlink "WebDevelopers Role Request Form" or Contact WebDevelopers Role Manager
* Install Software Tools		
Install Development Tool and Web and Application Server (IDE, Server software, etc.)	Desktop Support	requires OIT Request Form
If applicable, establish Middleware tools (e.g. MQSeries, Transaction Gateway, eForms, EntireX Broker, etc., etc.)	Desktop Support	requires OIT Request Form
If desired, install other utilitarian software (e.g. FTP, Telnet, Terminal Services, WinZip, X-Windows)	Developer with Server Administrator(s), as needed	may require OIT Request Form
Install CVS Client	Developer	may require OIT Request Form
* Shared and Reusable Assets		
PORTAL: if application is expected to initiate from myNewJersey PORTAL, begin discussions with PORTAL team	Development team with Portal Team	contact Gary.Mayer@oit.state.nj.us or James.Haughton@oit.state.nj.us
LOGGING: for testing/message log, use HostInfo component, Log4J	Development team	see API and Documentation in WebDevelopers Channel
EMAIL: if application is to use EMAIL, use the NJEmail component	Development team	see API and Documentation in WebDevelopers Channel

ePAYMENT: if application is to accept online payments, consider the ePayment component	Development team	see API and Documentation in WebDevelopers Channel
Consider any/all other reusable assets	Development team	see API and Documentation in WebDevelopers Channel
***** Quality Assurance**		
Prepare HTML Application Startup Page, "ApplicationUnavailable.html", and URL relative addressing	Development team	• URL references to files in the above directories should be RELATIVE rather than absolute • The URL link to the application should be an HTML page as discussed in the Startup Page document. It is NOT recommended that the URL go directly to an Application Server file (i.e. aspx, JSP or Servlet) • Also required is an HTML file specifically called "ApplicationUnavailable.html", which is to contain a splash page indicating that the Application is Unavailable. This page will be used if and when App becomes unavailable because developers request this and/or because of other technical difficulties.
Version control is addressed the use of CVS within the State of NJ. Obtain appropriate login ids and repository,	Development team	See "WebDevelopers" documents about Version Control to establish CVS accounts, contact James.Debruyne@oit.state.nj.us
Recognize and Prepare for Code Review, and Load/Stress Testing,	Development team with Subject Matter Experts, as needed	Load/Stress Testing is a KEY step in the eventual promotion of an application to PRODUCTION. Since problems discovered during this Test at the SYSTEM TEST Server Level may cause deterioration in app and/or data servers, attention to and planning for this sooner than later is strongly recommended.
***** DataSource**		
If applicable, Oracle Database Connectivity Software (i.e.	Development Team in conjunction with	may require: a) establishment of Data area on a Shared Server (see DBA's) and/or b) modifications to desktop

Oracle Client)	DBA's	tnsnames.ora and c) Datasource registration on desktop App Server.
If applicable, Other Datasource (e.g. SQL Server, Adabas, Transaction Gateway, etc.)	Application Server Administrator upon request from Development Team	Development team works with its Development Team, Tech Services, DBA's to establish and designate the data area(s)

2. Create UNIT TEST application		
TASK	Responsible Party	Detail
* Application Design, Development, Testing, and Documentation		
complete Project life cycle steps in developing the application as per ... MUG, etc.	Development Team	see associated methodology and Center of Excellence documents
Locally Build Deployable Application file(s)	Lead Developer	acquire code from CVS and build the appropriate deployable file(s). e.g. .EAR, .dll, .zip. msi.exe see Document Library article: "Requirements for Packaging the deployable EAR file", and "Standard Directories for Non Java Files"
Develop Test Harness and/or Test Driven (TDD)	Development Team	should be reusable and must test all logic paths of the application and should be able to be used on all server levels.
Locally Test Application	Development Team	confirm that all features and functions perform as required

3. Prep Work for INTEGRATION TEST Environment		
TASK	Responsible Party	Detail
* Server Admin related issues		
		Logins, group, deployment permissions, and directories are established as requested to deploy-request@oit.state.nj.us or Ndeploy-request@oit.state.nj.us

Establish User Access to appropriate shared server(s)	Application Server Administrator on request from Development Team	- create a login for Developers on the Integration Test - Developers should be granted deployment permission - establish the agreed upon access group name - Web server directories should be established as per standards - Sun: "Flat Files" (.xls, .doc, .pdf, etc.) reside in /opt/appsconfig/docs/WebPath - Sun: Properties Files (.props, .properties, .etc) reside in /opt/appsconfig/props/WebPath - Application Specific Log Files (created by classes such a log4j) reside in /opt/appsconfig/props/log4j/WebPath/property4log.pro and /opt/appsconfig/logs/WebPath/appname.log
* Install Software Tools		
If applicable, confirm installation of Middleware tools (e.g. MQSeries, Transaction Gateway, eForms, EntireX Broker, etc., etc.)	Development Team with Application Server Adminstrators	communicate via email with appropriate staff
* DataSource		
Confirm Oracle Database Connectivity from Application Server	Development Team with Application Server Administrators	In the SUN environment, Once data is established, email to mailto:deploy-request@oit.state.nj.us For Thin Driver, provide datasource specifics including LOGIN, PASSWORD, and URL string such as "jdbc:oracle:thin:@MachineHostName:Port:Sid" where machine MachineHostName, Port, and Sid are specific your application
Confirm Oracle Database Connectivity from Application Server	Development Team with Application Server Administrators	for .NET, TBD
If applicable, Other Datasource	Application Server	

(e.g. SQL Server, Adabas, Transaction Gateway, etc.)	Administrator upon request from Development Team	Development team works with its Development Team, Tech Services, DBA's to establish and designate the data area(s)
* Quality Assurance		
To help ensure that Application Code is efficient and effective, have code checked via available tools	Developer with Competency Center Team	contact EMAIL-ADDRESS TBD to coordinate
To help ensure that Data retrieval is efficient and effective, review and implement data access Best Practices, especially for Oracle datasources and MQ queue management	Developer with Appropriate Database Team	contact appropriate database administrator to coordinate

4. Application DEPLOYMENT and Execution on INTEGRATION TEST		
TASK	Responsible Party	Detail
* DEPLOY code and related files		
		• If Sun App, directly deploy html, etc. (HTML, images, stylesheets, javascript, templates, flatfiles like properties, PDF's, .docs, .xls, etc.)

PUBLIC Tier: Presentation/WebServer piece	Development Team in conjunction with AIS Team	and appropriate application file(s) Those with logins ids (noted above) may FTP HTML and images as necessary to the appropriate directories on the Integration Test Web Server See: App Setup Form, "Standard Directories for Non Java Files", and, "Relative or Absolute URLs: specifics to Web and Application Servers - 12/3/2001" Item "2B" is the recommended technique. • If .NET App, transfer deployable application file(s) for automated deployment NOTE: Automated deployment documentation may be referenced via myNewJersey, WebDevelopers Channel. "Automated Deployment Instructions". Establish the directories which should be built and preserved
SECURE Tier: BusinessLogic/Application piece	Development Team in conjunction with AIS Team	• transfer deployable application file (s) for automated deployment NOTE: Automated deployment documentation may be referenced via myNewJersey, WebDevelopers Channel. "Automated Deployment Instructions". Establish the directories which should be built and preserved
* Quality Assurance		
Execute Test Harness and/or Test Driven Development (TDD)	Development Team, Business Unit	Each logic path should be tested, to ensure that, at minimum, Database and App are in sync, each and every JSP is compiled successfully, all images, and references are accurate. (see Deployment Guidelines: "How to Watch Logs on Shared Servers - Sept. 2001", "Screen by Screen How to Use Telnet") .NET pending.....
Monitor Application Performance	Development Team, DBA's	(see Deployment Guidelines: "How to Watch Logs on Shared Servers - Sept. 2001", "Screen by Screen How to Use Telnet") .NET pending.....

* Sign Off		
Sign-off	Business Unit through Development Team	Once testing is complete, notify AIS of User Acceptance and certification that logs are "application error-free".

5. and 7. Prep Work for SYSTEM TEST *AND* PRODUCTION Environment to be completed for EACH level		
TASK	Responsible Party	Detail
* Server Admin related issues		
Establish User Access to appropriate shared server (s)	Application Server Administrator on request from Development Team	Directories are established as requested to deploy-request@oit.state.nj.us or Ndeploy-request@oit.state.nj.us • Web server directories should be established as per standards for Sun: this includes "Flat Files" Properties Files, Application Specific Log Files
* Install Software Tools		
If applicable, confirm installation of Middleware tools (e.g. MQSeries, Transaction Gateway, eForms, EntireX Broker, etc., etc.)	Development Team with Application Server Adminstrators	communicate via email
* DataSource, including data AND firewall rule(s), if necessary		
Confirm Oracle Database Connectivity from Application Server	Development Team with Application Server Administrators	In the SUN environment, Once data is established, email to mailto:deploy-request@oit.state.nj.us For Thin Driver, provide the datasource specifics including LOGIN, PASSWORD, and URL string such as "jdbc:oracle:thin:@MachineHostName:Port:Sid" where machine MachineHostName, Port, and Sid are specific to your application ENSURE that Firewall rule(s) are in place to allow communication with data
Confirm Oracle		

Database Connectivity from Application Server	Development Team with Application Server Administrators	for .NET, TBD ENSURE that Firewall rule(s) are in place to allow communication with data
If applicable, Other Datasource (e.g. SQL Server, Adabas, Transaction Gateway, etc.)	Application Server Administrator upon request from Development Team	Development team works with its Development Team, Tech Services, DBA's to establish and designate the data area(s) ENSURE that Firewall rule(s) are in place to allow communication with data
* Quality Assurance		
Prepare Load/Stress Test Scripts and conditions	Developer with Business Unit staff, and AIS	Now is the time to IMPLEMENT Load/System Test. A prepared test plan for application navigation and testing of all features is required. Submit REQUEST.....
Measure Performance to ensure app does not degrade server performance and/or over‑consume resources	AIS / Development Team / Business Unit	Performance Metrics / Measures (Load test of Application)

6. and 8. Application DEPLOYMENT and Execution on SYSTEM TEST *AND* PRODUCTION		
TASK	Responsible Party	Detail
* DEPLOY code and related files		
		• If Sun App, directly deploy html, etc. (HTML, images, stylesheets, javascript, templates, flatfiles like properties, PDF's, .docs, .xls, etc.) and appropriate application file(s) Those with logins ids (noted above) may FTP HTML and images as necessary to the appropriate directories on the Integration Test

PUBLIC Tier: Presentation/WebServer piece	Development Team in conjunction with AIS Team	Web Server See: App Setup Form, "Standard Directories for Non Java Files", and, "Relative or Absolute URLs: specifics to Web and Application Servers - 12/3/2001" Item "2B" is the recommended technique. • If .NET App, transfer deployable application file(s) for automated deployment NOTE: Automated deployment documentation may be referenced via myNewJersey, WebDevelopers Channel. "Automated Deployment Instructions". Establish the directories which should be built and preserved
SECURE Tier: BusinessLogic/Application piece	Development Team in conjunction with AIS Team	• transfer deployable application file(s) for automated deployment NOTE: Automated deployment documentation may be referenced via myNewJersey, WebDevelopers Channel. "Automated Deployment Instructions". Establish the directories which should be built and preserved
* Quality Assurance		
Execute Test Harness and/or Test Driven Development (TDD)	Development Team, Business Unit	Each logic path should be tested, to ensure that, at minimum, Database and App are in sync, each and every JSP is compiled successfully, all images, and references are accurate. (see Deployment Guidelines: "How to Watch Logs on Shared Servers - Sept. 2001", "Screen by Screen How to Use Telnet") .NET pending
Monitor Application Performance	Development Team, DBA's	(see Deployment Guidelines: "How to Watch Logs on Shared Servers - Sept. 2001", "Screen by Screen How to Use Telnet") .NET pending
* Sign Off		
	Business Unit through	Once testing is complete, notify AIS of

Sign-off	Development Team	User Acceptance and certification that logs are "application error-free".

September 2, 2004, cjoc, a work in PROGRESS